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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/672,901	09/29/2000	Yukihiro Komatsu	017700/0143	8821

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FOLEY AND LARDNER
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

CARTER, AARON W

ART UNIT	PAPER NUMBER
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2625

DATE MAILED: 10/08/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/672,901

Applicant(s)

KOMATSU, YUKIHIRO

Examiner

Aaron W Carter

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5,6,8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1-3, 7, 13 and 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,745,593 to Wahawisan et al. ("Wahawisan").

As to claims 1 and 13, Wahawisan discloses an image processing apparatus comparing an image of a product with a reference image in accordance with a set process for visually inspecting said product, comprising:

Inspection type inputting means for inputting a desired type of inspection of a plurality of types of inspections (Fig. 8, column 5, lines 46-52); and

Operation guiding means for guiding an operation of setting said process suitable for said desired type of inspection input by said inspection type inputting means (column 6, lines 13-20).

As to claim 2, Wahawisan discloses the image processing apparatus according to claim 1, characterized in that the input of said desired type of inspection from said inspection type inputting means is performed by using common inspection names in visual inspection (Fig. 8).

As to claim 3, Wahawisan discloses the image processing apparatus according to claim 2, further comprising menu presenting means for presenting a menu of said common inspection names respectively corresponding to said plurality of types of inspections (Fig. 8).

As to claim 7, Wahawisan discloses the image processing apparatus according to claim 2, characterized in that said common inspection name is any of presence inspection, conformance inspection, orientation inspection, position inspection, dimension inspection, chip and burr inspectio and surface inspection (Fig. 8, e.g. "Burr Check").

As to claim 14, please refer to rejections made to claims 1-3 above.

As to claim 15, please refer to rejection made to claim 7 above.

As to claim 16, Wahawisan discloses the visual inspection system according to claim 14, further comprising a pickup portion for taking an image of said product for outputting to said controlling portion (Abstract, lines 1-6).

3. Claims 1, 2 and 13 rejected under 35 U.S.C. 102(b) as being anticipated by an article entitled "Real-Time Image Processing Using Transputers" by Teoh et al. ("Teoh").

Art Unit: 2625

As to claims 1 and 13, Teoh discloses an image processing apparatus comparing an image of a product with a reference image in accordance with a set process for visually inspecting said product (page 505, Section 2.2, lines 2-3), comprising:

Inspection type inputting means for inputting a desired type of inspection of a plurality of types of inspections (page 505, Section 1, paragraph 3, lines 6-7 and Section 2.2, wherein the component type corresponds to the inspection type, it is inherent that when the component type is determined that it is input into an inspection type inputting means so that it can be sent to the operation guiding means); and

Operation guiding means for guiding an operation of setting said process suitable for said desired type of inspection input by said inspection type inputting means (page 506, Section 3.1, wherein when the type of inspection is determined and input, the inspection process is guided along according to whether it is an IC, Diode or Resistor).

As to claim 2, Teoh discloses the image processing apparatus according to claim 1, characterized in that the input of said desired type of inspection from said inspection type inputting means is performed by using common inspection names in visual inspection (page 505, Section 1, paragraph 3, lines 5-7, wherein inspection names corresponds to IC, diode, resistor and capacitor).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2625

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wahawisan as applied to claim 2 above, and further in view of USPN 6,070,155 to Cherrington et al. ("Cherrington").

As to claim 4, Wahawisan discloses the image processing apparatus according to claim 2, but neglects to explicitly disclose it discloses further comprising explanation presenting means for presenting as desired an explanation related to said type of inspection corresponding to arbitrary said common inspection name in said menu presented by said menu presenting means. However, Cherrington discloses further comprising explanation presenting means for presenting as desired an explanation related to said type of inspection corresponding to arbitrary said common inspection name in said menu presented by said menu presenting means (column 4, lines 23-25 and Fig. 2, column 6, lines 52-57 and column 7, lines 21-24). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to add the menu presenting means, as taught by Cherrington, to the image processing apparatus disclosed by Wahawisan, providing a system and method for integrated highly automated diagnosis (column 3, lines 20-21).

As to claim 5, the combination of Wahawisan and Cherrington disclose the image processing apparatus according to claim 4, Cherrington discloses characterized in that said explanation shows a content of said visual inspection of said corresponding type of inspection by

using an illustration of a typical product as an object of the visual inspection (column 8, lines 16-29).

As to claim 6, the combination of Wahawisan and Cherrington disclose the image processing apparatus according to claim 4, Cherrington discloses characterized in that said explanation illustrates an application of said visual inspection of said corresponding type of inspection (column 8, lines 16-29).

6. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teoh as applied to claim 1 above, and further in view of USPN 6,477,266 to Asar.

As to claim 8, Teoh discloses the image processing apparatus according to claim 1, characterized in that said operation guiding means includes:

Fragment image guiding means for guiding a setting operation of a fragment image of image of said product to be inspected corresponding to said desired type of inspection (page 506, Section 2.4), but neglects to explicitly disclose the image characteristic guiding means.

However, Asar discloses a image characteristic guiding means for guiding a setting operation of an image characteristic of said image of said product subjected to inspection corresponding to said desired type of inspection (column 6, lines 50-60 and Fig. 17, defect tags correspond to image characteristics), as well as the fragment image guiding means (column 6, lines 43-50). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to add the image characteristic guiding means, as taught by Asar, to the image

Art Unit: 2625

processing means of Teoh, this providing rapid viewing and manipulating of the images (column 6, lines 28-32).

As to claim 9, the combination of Teoh and Asar disclose the image processing apparatus according to claim 8, Asar further discloses wherein said fragment image guiding means has window-shape menu presenting means for presenting a menu indicating a plurality of types of window shapes to be possible used for setting said fragment image (column 6, lines 43-50, wherein zoom, pan, and scroll correspond to types of window shapes).

As to claim 10, the combination of Teoh and Asar disclose the image processing apparatus according to claim 8, Asar further discloses wherein said image characteristic guiding means has image characteristic menu presenting means for presenting a menu showing a plurality of said image characteristics to be set (Fig. 17).

As to claim 11, the combination of Teoh and Asar disclose the image processing apparatus according to claim 10, Asar further discloses wherein said image characteristic guiding means further has image characteristic explanation presenting means for presenting as desired an explanation related to arbitrary said image characteristic on said menu presented by said image characteristic menu presenting means (Fig. 17, wherein the defect tags are an explanation in themselves).

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teoh and Asar as applied to claim 11 above, and further in view of USPN 6,185,324 to Ishihara et al. ("Ishihara").

As to claim 12, the combination of Teoh and Asar disclose the image processing apparatus according to claim 11, but neglect to explicitly disclose characterized in that said explanation presented by said image characteristic explanation presenting means shows said arbitrary image characteristic by using an illustration. However, Ishihara discloses an explanation presented by said image characteristic explanation presenting means shows said arbitrary image characteristic by using an illustration (Fig. 18 and column 14, lines 14-19). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to add the use of illustration in an explanation of an image characteristic, as taught by Ishihara, to the image processing apparatus of Teoh and Asar, this providing an easy to understand visual explanation of the image characteristics (column 14, lines 18-19).

8. Claim 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wahawisan as applied to claim 16 above, and further in view of USPN 5,699,447 to Alumot et al. ("Alumot").

As to claim 17, the Wahawisan discloses the visual inspection system according to claim 16, but neglects to explicitly disclose wherein characterized in that said reference image is an image of said product taken and output by said pickup portion. However, Alumot discloses the wherein a reference image is an image of said product taken and output by said pickup device (column 2, lines 45-49 and column 21, lines 35-40). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to add use of the reference image, as taught by Alumot, to the image processing system as disclosed by Wahawisan, this providing an inspection device with a relatively low rate of false alarms (column 1, line 60).

Art Unit: 2625

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

USPN 6,188,402 to Csipkes et al. discloses an inspection procedure.

Contact Information

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron W. Carter whose telephone number is 703.306.4060. The examiner can normally be reached by telephone between 8am - 4:30pm (Mon. – Fri.).

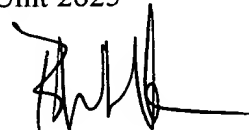
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 703.308.5246. The fax phone number for the organization where the application or proceeding is assigned is 703.872.9306 for regular communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.306.0377.

Awc.
awc

September 30, 2003

Aaron W. Carter
Examiner
Art Unit 2625



**BHAVESH M. MEHTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600**